



Bilkent University

Quiz # 10  
Math 102-Section 11  
26 May 2023, Friday, Moodle Quiz  
Instructor: Ali Sinan Sertöz  
**Solution Key**

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**Q-1)**

$$\int_0^{3/2} \int_0^{\sqrt{2y-y^2}} \int_1^{\sqrt{4-x^2-y^2}} dz dx dy + \int_{3/2}^{\sqrt{3}} \int_0^{\sqrt{3-y^2}} \int_1^{\sqrt{4-x^2-y^2}} dz dx dy$$
$$= \int_0^{\pi/3} \int_0^{2\sin\theta} \int_1^{\sqrt{4-r^2}} r dz dr d\theta + \int_{\pi/3}^{\pi/2} \int_0^{\sqrt{3}} \int_1^{\sqrt{4-r^2}} r dz dr d\theta.$$

Grading: 10 points.